

quires frequent renewing, otherwise it is worse than useless. Makers of all kinds of filters, however, do not hesitate to aver that they are self-cleansing, perfect, etc., etc., which, we have seen, is opposed to the best and latest scientific research on the subject. Let the householder be guided by the facts.

Where nothing better is at hand, water may be filtered through a box, perforated at the bottom, containing clean quartz sand, resting on a plate of porous earthenware or on bricks placed on top of the charcoal. Expose the filter to the air from time to time.

PUBLIC SYSTEMS OF WATER SUPPLY.—It will probably not be long before our cities will demand purer water than can be supplied by the wells and springs now used; many of them being, without doubt, polluted by the many impurities thrown on the surface. This involves a *public system* of water supply, with its attendant system of reservoirs, filter-beds, pipes, hydrants, etc. In view of such contingency, it may not be out of place to mention some of the requirements that such a system should fulfill.

The water may be obtained from lakes, rivers and streams, springs and wells, impounding reservoirs often being used to collect that which falls on the hill-sides into one place.

This water may be conveyed for distribution (Rawlinson's Suggestions to Local Sanitary Boards, England, p. 20),—

“By means of open conduits (before filtration);

“ “ “ covered* “ (always after filtration);

“ “ “ cast-iron pipes under pressure.”

A water supply may be gravitating, or the water may be pumped by steam power. The relative economy of one or the other form of works will depend on details of cost and quality of water; as a rule, gravitating works require the largest capital. The annual working expenses of a pumping scheme may, however, be greatest. Reservoirs for service distribution should be covered.

If filters are used, the water should not be exposed in open reservoirs and tanks after filtration.

*Covered, to prevent the growth of vegetable organisms.